

Day 1

2018년 10월 15일 월요일 오전 9:22

# Day 1 Deep Learning

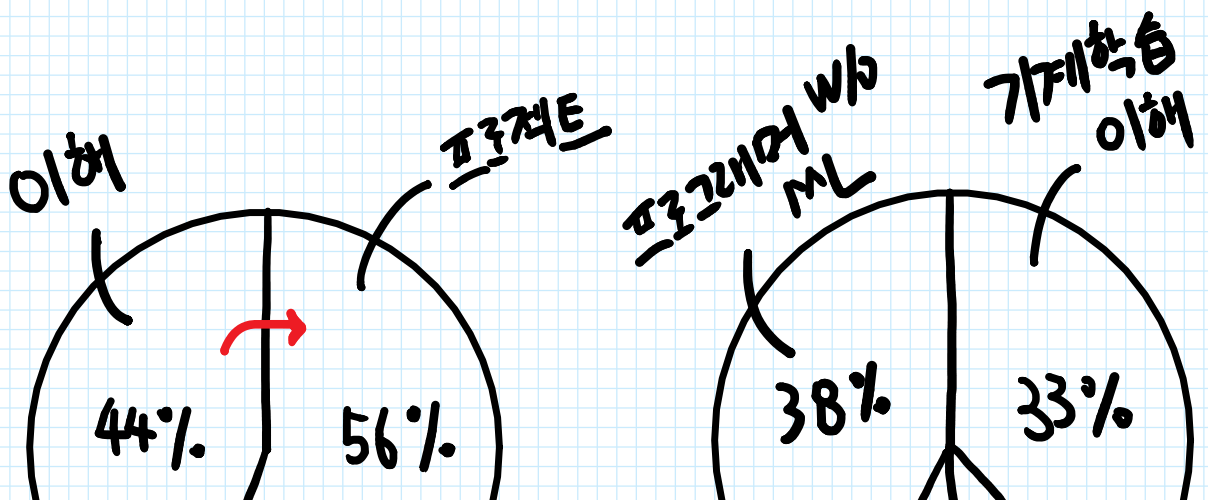
feat. Python by 이성주

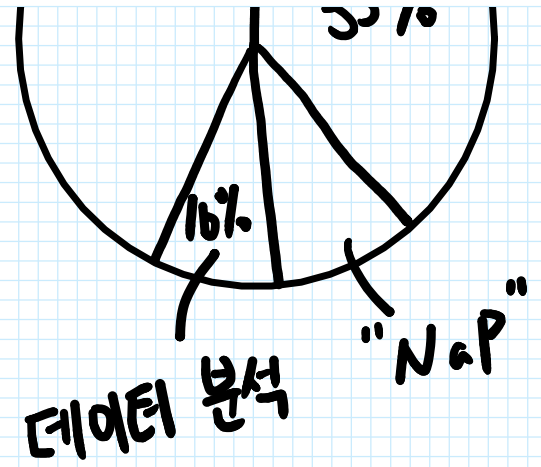
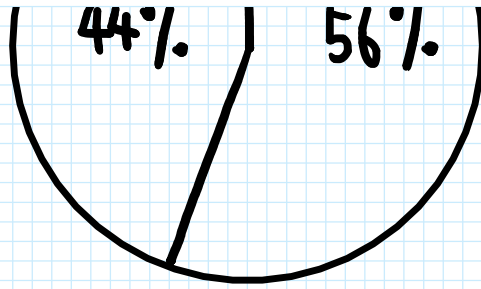
Day 1

필수 Libs		기계학습 리뷰
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Day 2

퍼셉트론		신경망
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0

90

파이썬 x 기계 학습

평균: 49 , 중앙값: 50

File Edit View Insert Cell Kernel Widgets Help

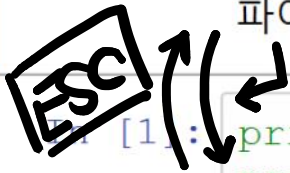


X C V

RUN : Shift + Enter

## 파이썬 디러닝

파이썬으로 디러닝 기법을 적용하는 법을 논의합니다.



```
In [1]: print('파이썬 디러닝')
        print('셀 실행은 shift + Enter')
```



파이썬 디러닝  
셀 실행은 shift + Enter

  : Delete cells

~~In [1]:~~

```
In [1]: print('파이썬 디러닝')
        print('셀 실행은 shift + Enter')
```

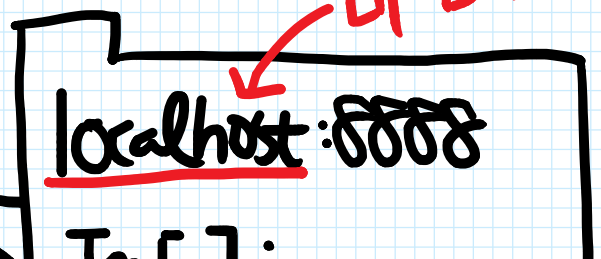
파이썬 디러닝  
셀 실행은 shift + Enter

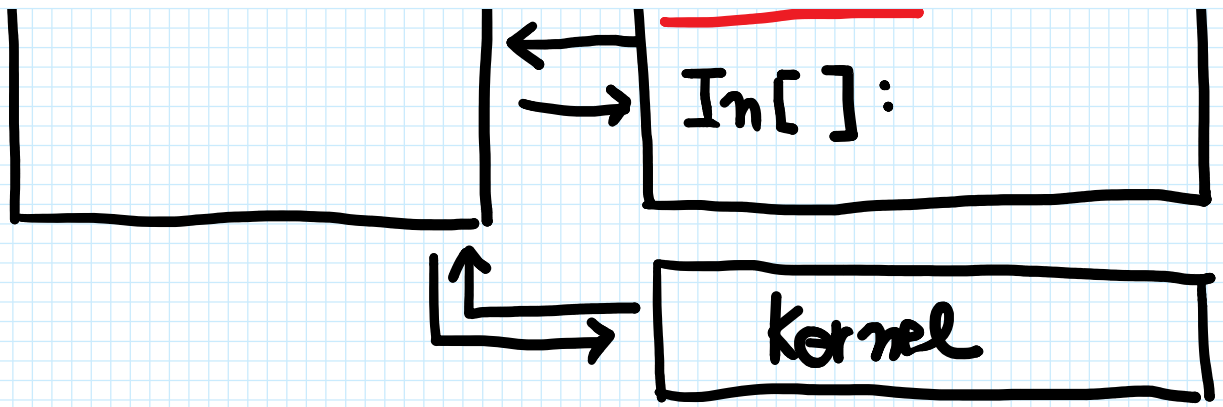
 Above

 Below

In [ ]:

Jupyter Server





\$ jupyter notebook password

Enter password: \*\*\*

↻ Server RESTART

Numpy x SciPy

%timeit      expr

↑  
노트북 설정  
"대직 명령"

0	1	2	3	4	5
a	b	c	d	e	f

$[0:3]$   $\longrightarrow 0 \leq \text{색인} < 3$

$[3:]$   $\longrightarrow 3 \leq \text{색인} \leq \text{끝}$

팬시 색인

$([0, 1, 2, 3, 4])$

ndarray

$[ [0, 2, 4] ]$

list "4명"

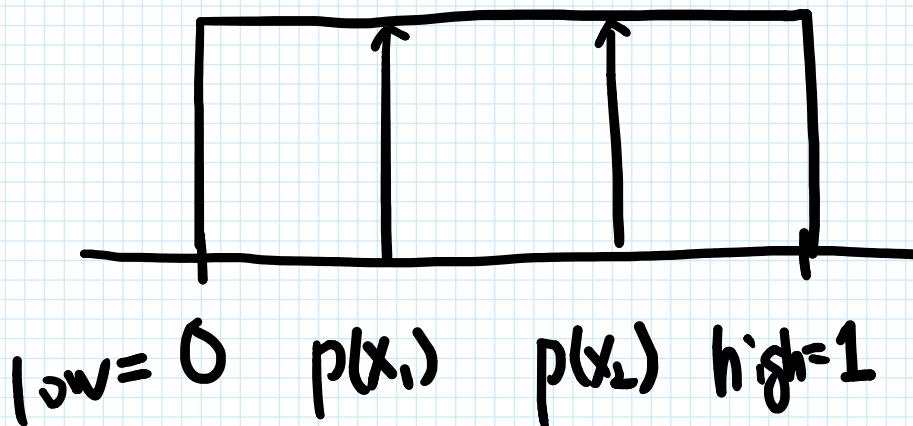
선택 연산자

0축 조건

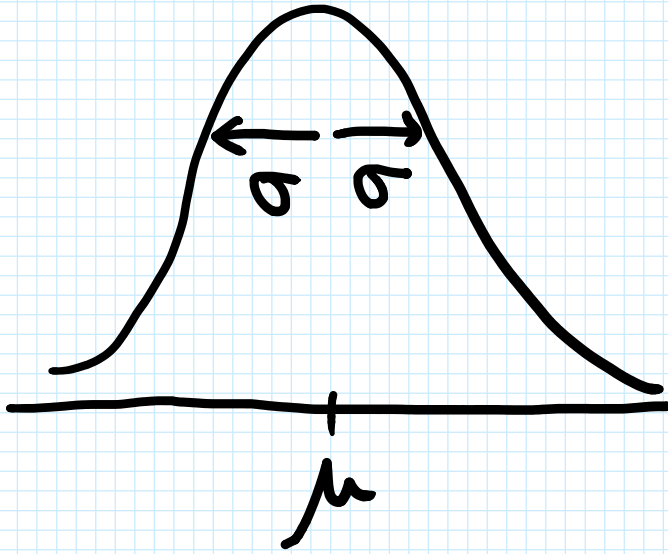
0 1 2  
3 4 5  
6 7 8

np.where (불리언 배열, TV, FV)

[True, False], 1, -1  
↓ ↓  
1 -1



$$p(x_1) = p(x_2)$$



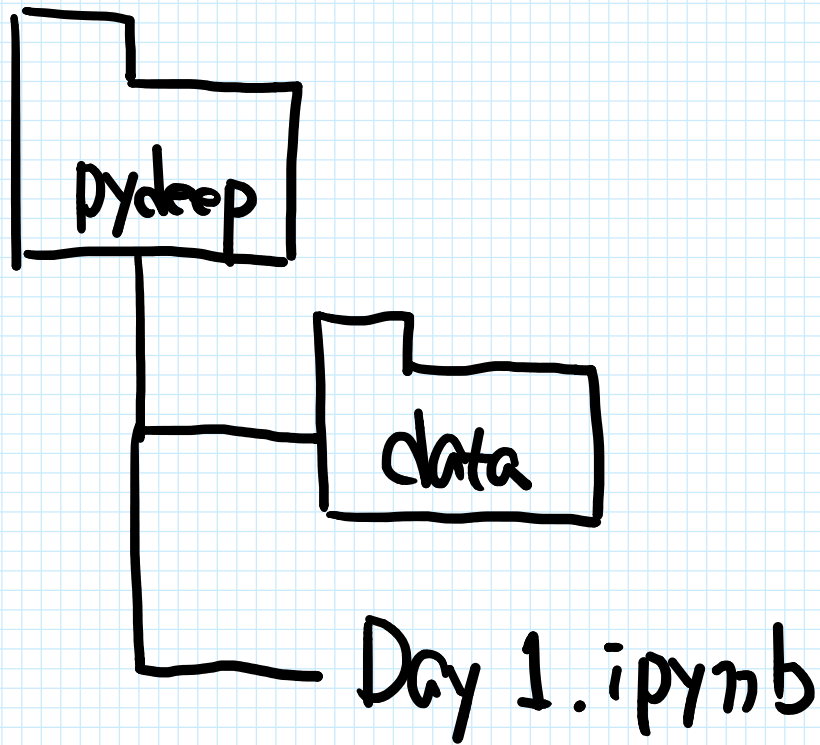
matplotlib

plt. 그래프 (data, 설정)

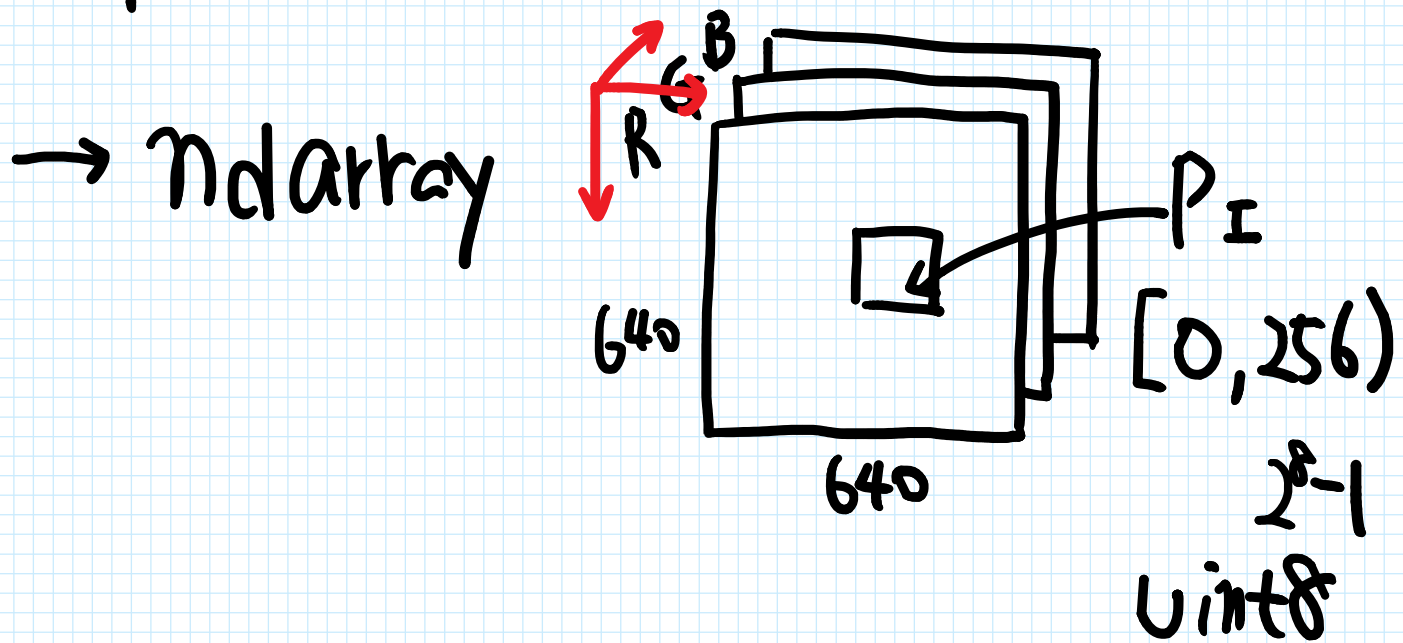
plot : 선 그래프

% matplotlib inline

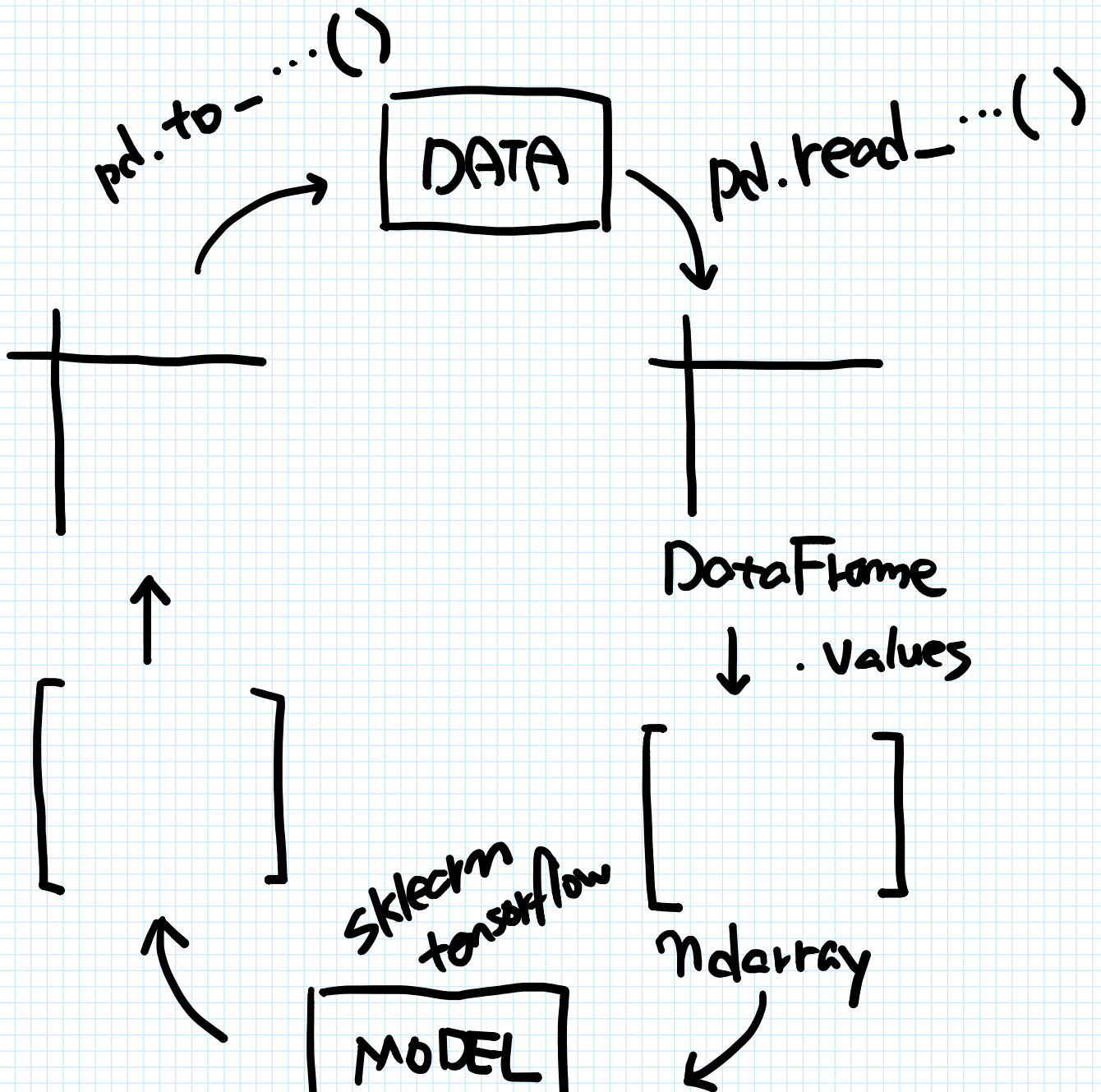
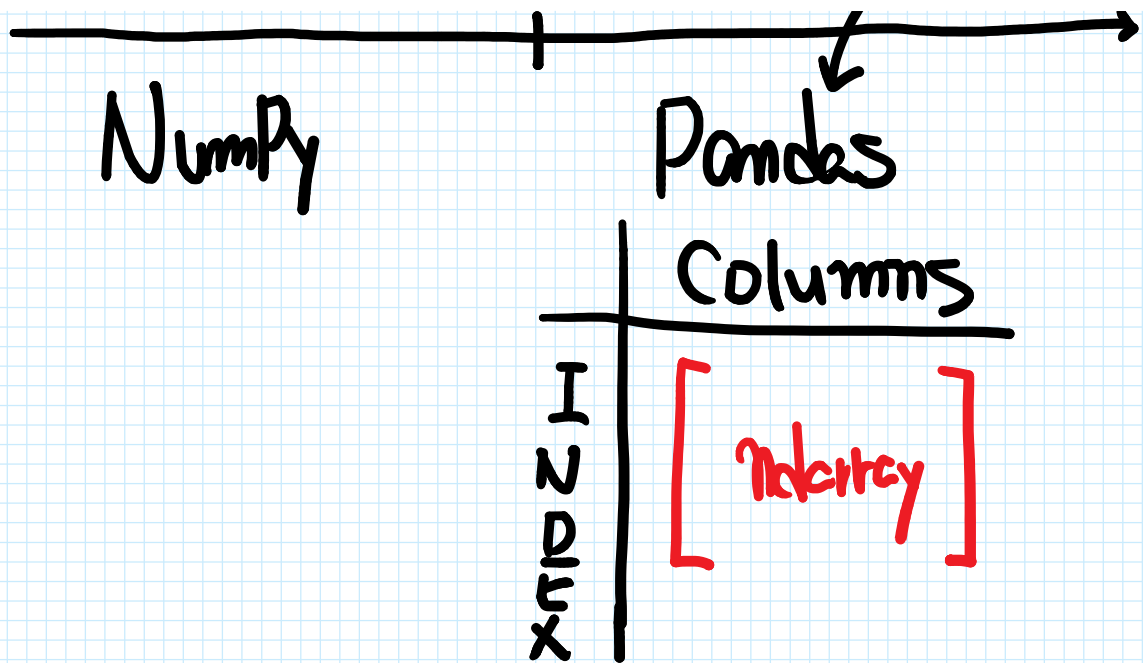
plt.show() → A hand-drawn graph showing a line plot. It consists of a horizontal axis and a vertical axis forming an L-shape. A wavy line is drawn across the plot area, representing data points connected by lines.

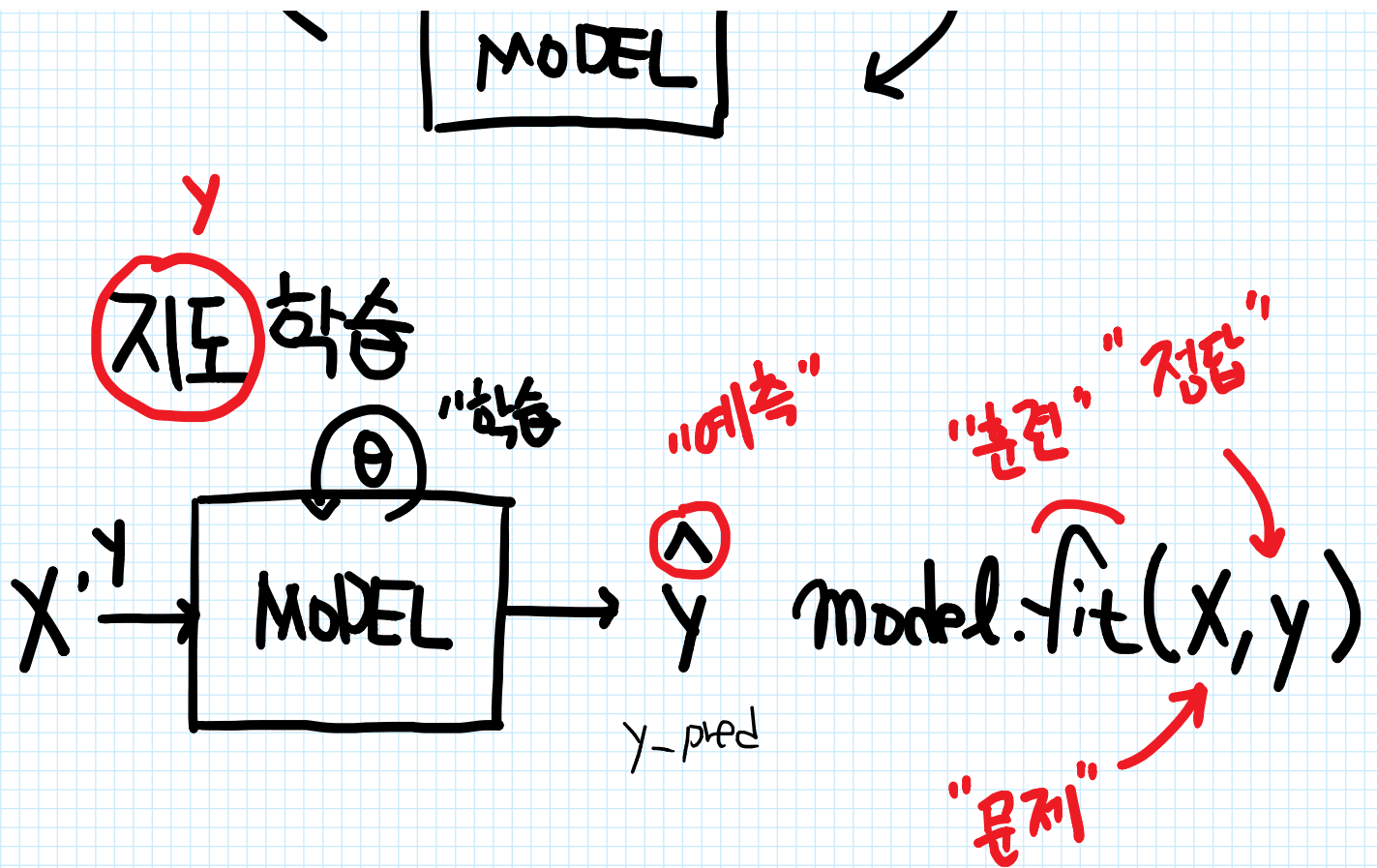


`matplotlib.image.imread()` (읽기)





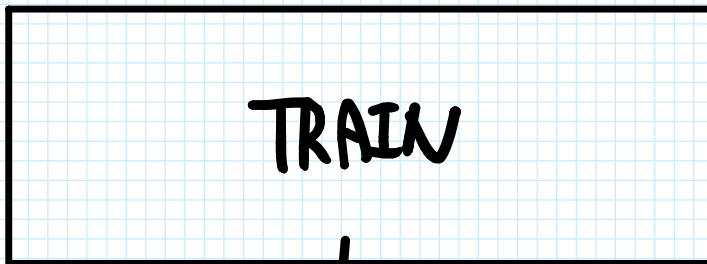




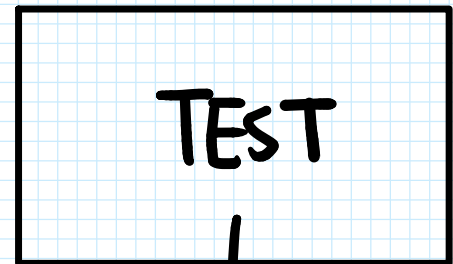
## 기계학습 Libs

ML	Deep Learning
Scikit-Learn	TensorFlow (+ keras)
↓ import sklearn	↓ import tensorflow

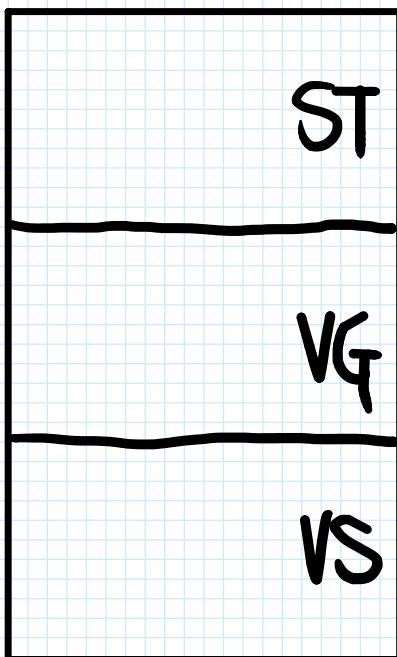
# TRAIN/TEST



↓  
.`fit(x,y)`



↓  
.`predict(x)`



1) Shuffle

2) Split (default: 25%)

$\frac{y_2}{y_1}$

$$y = \begin{cases} 1, A, 가 \\ -1, B, 나 \end{cases} \quad \text{이진}$$

$$y = \begin{cases} 0, A, 가 \\ 1, B, 나 \\ 2, C, 다 \end{cases} \quad \text{다중}$$

회귀

$$y = 1.234 \dots \quad (\text{float})$$

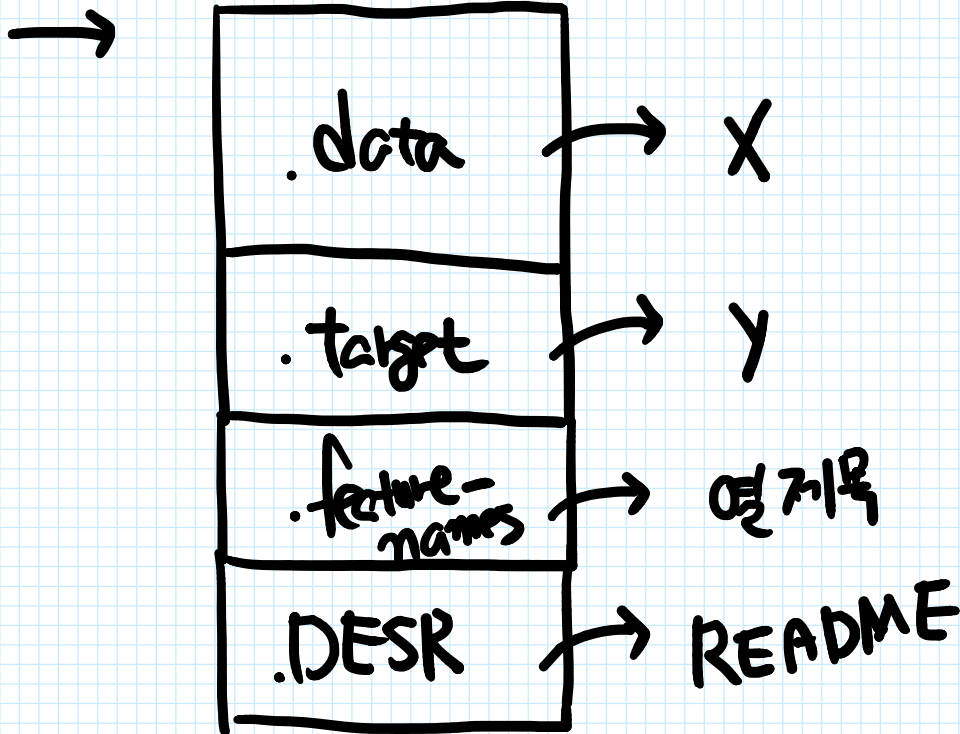
$$R^2 \text{ Score} = 1 - \frac{\sum^n (y - \hat{y})^2}{\sum (y - \bar{y})^2}$$

각 샘플별 오차<sup>2</sup>

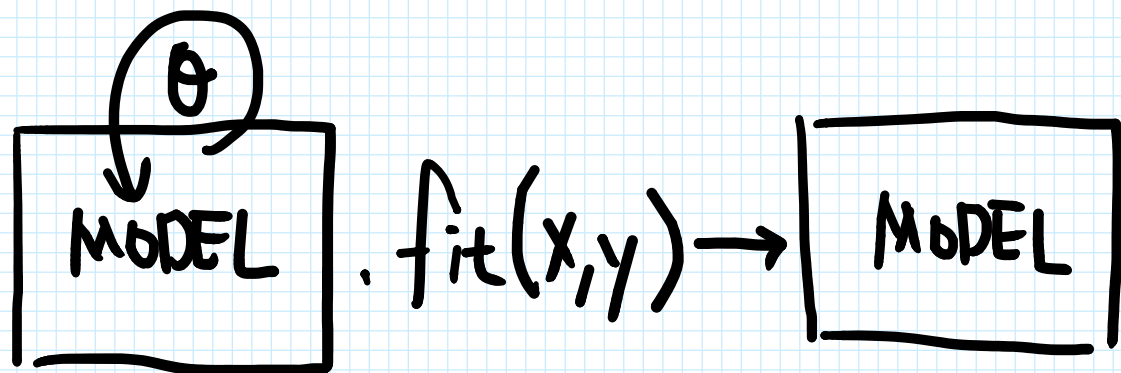
↑ 평균

Sklearn.datasets.load...()

Bunch "뭉치"이



Sklearn model



KNN



